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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,157	04/08/2004	Dong-woo Lee	249/459	7040
27849	7590	09/02/2008		
LEE & MORSE, P.C. 3141 FAIRVIEW PARK DRIVE SUITE 500 FALLS CHURCH, VA 22042			EXAMINER FORD, JOHN K	
			ART UNIT 3744	PAPER NUMBER
			MAIL DATE 09/02/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/820,157

**Applicant(s)**

LEE ET AL.

**Examiner**

John K. Ford

**Art Unit**

3744

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 May 2008 and 28 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-8, 10-18 and 22 is/are pending in the application.
- 4a) Of the above claim(s) 6-8, 14, 15, 17 and 18 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-5, 11-13, 22 is/are allowed.
- 6) ☒ Claim(s) 10 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Applicant's responses of May 16, 2008 and March 28, 2008 have been studied carefully.

Rejoinder of claims 6, 7, 8, 14, 15, 17 and 18

With respect to the rejoinder of claims 6, 7, 8, 14, 15, 17 and 18, applicant takes no issue with any of the examiner's detailed analysis in the previous office action (and repeated, verbatim, below). Instead, applicant asserts that the "exemplary embodiments" of the original disclosure can be combined in such a way that features found in one embodiment can be added and/or substituted into another embodiment. As understood by the examiner, the original disclosure then is a kind of smorgasbord of features that could be put together in anyway that counsel wants to arrange them in the claims. Without some guidance (and paragraph 0032 gives none) as to what features could be borrowed, swapped or added from each of the embodiments to any one of the others, the high standards set in Wagoner v. Barger, 175 USPQ 85 (CCPA 1972) have not been met. One of ordinary skill in the art is presented with so many possibilities by such an approach (measured in the thousands at least) that one of ordinary skill can not foresee any one of these possibilities with the requisite clarity to satisfy the high standards set in Wagoner v. Barger, 175 USPQ 85 (CCPA 1972).

Claims 10 and 16

With respect to claims 10 and 16, the argument that "or" as supported by the original disclosure means the same thing as "at least one of" in the claims is disagreed with. The terms clearly have different meanings in the English language and the rejections stand.

Allowable claims:

The examiner strongly suggests that applicant cancels the non-elected claims and amend claims 10 and 16 to recite the structures in the alternative (i.e. using the word "or" as it is used in the specification) in an effort to move this case to allowance.

The previous office action is repeated below.

Applicant's RCE filed October 2, 2007 has been studied carefully. It is the examiner's belief that the only real stumbling block to the allowance of this application is applicant's insistence that all of the currently nonelected dependent claims (i.e. claims 6-8, 14, 15, 17 and 18) must be allowed because counsel has amended them to depend directly or indirectly from allowed claims 11 or 12. The problem with this is that neither of claims 11 or claim 12 is generic. In fact, claims 11 and 12 are only readable on the species of Figure 7 because that is the only disclosed species with two coolant storage tanks and both of claims 11 and 12 explicitly recite two coolant tanks.

In support of rejoinder, counsel, without referencing any part of the specification, drawings or original claims states: "In other words, these Species were clearly usable together, and claims 11 and 12 are generic to each of the claims depending therefrom". The examiner disagrees with both statements. First claims 11 and 12 are not generic but rather are only readable on the species of Figure 7 because that is the only disclosed species with two coolant storage tanks and both of claims 11 and 12 explicitly recite two coolant tanks. No other species shows these two coolant tanks. Furthermore in the species of elected Figure 7, the heater 102 is located on the bottom of the heat pipe 100. Importantly, as disclosed on page 18, paragraph 0053, last sentence of applicant's specification, when heating takes place the cooling system is isolated from the heat pipe by fluid control units 126a, 128a and 140a. The heat pipe is heated directly by heater 102.

Non-elected claims 6 and 7

Regarding non-elected claims 6 and 7, the only embodiment that includes this claimed feature (sequential fluid control units) appears to be non-elected Figure 8 (see elements 152a and 152b and paragraph 0058 of the specification). There is nothing that suggests that this feature could be borrowed from the Figure 8 embodiment and inserted into Figure 7 somehow. In fact, Figure 7 uses elements 126a and 140a in a different configuration to perform a similar function. It is therefore unclear, if applicant's substitution is attempted, whether or not 152b would replace 140a or be used in

addition to it, or where it would be placed (between the tanks or upstream of them). The high standards set for inherent disclosure under 35 USC 112, first paragraph, set forth in Wagoner v. Barger, 175 USPQ 85 (CCPA 1972) have not been met. A copy of this case law has been attached to this office action and it is incorporated here by reference. If the examiner were to rejoin claims 6 and 7 as depending indirectly from claim 12 the resulting claimed subject matter would not be supported by the original disclosure. According claims 6 and 7 are not rejoined.

Non-elected claim 8

Regarding non-elected claim 8, there is no disclosure to support that either of tanks 144 or 146 have wicks in them or that there is any sort of pressurization device needed. These two features are found in non-elected Figure 4, which bears very little resemblance to elected Figure 7 and performs the cooling function in a very different manner than Figure 7. The high standards set for inherent disclosure under 35 USC 112, first paragraph, set forth in Wagoner v. Barger, 175 USPQ 85 (CCPA 1972) have not been met. A copy of this case law has been attached to this office action and it is incorporated here by reference. If the examiner were to rejoin claim 8 as depending directly from claim 12 the resulting claimed subject matter would not be supported by the original disclosure. According claim 8 is not rejoined.

Non-elected claims 14 and 15

Regarding non-elected claims 14 and 15, there is no disclosure to support that there is any heater in Figure 7 other than 102. Again, the claimed subject matter of claims 14 and 15 is found in a nonelected species of Figure 9, a species than has no disclosed cooler whatsoever. Again there is no disclosure to link the incorporation of the heaters of Figure 9 into Figure 7. It is open to speculation as to how this might be done and therefore the high standards set for inherent disclosure under 35 USC 112, first paragraph, set forth in Wagoner v. Barger, 175 USPQ 85 (CCPA 1972) have not been met. A copy of this case law has been attached to this office action and it is incorporated here by reference. If the examiner were to rejoin claims 14 and 15 as depending directly from claim 12 the resulting claimed subject matter would not be supported by the original disclosure. According claims 14 and 15 are not rejoined.

#### Non-elected claims 17 and 18

Regarding non-elected claims 17 and 18, there is no disclosure to support that the cooling system is extend between or overlap or be wrapped around the connection pipe in elected Figure 7. In Figure 7, the two coolers 144 and 146 are placed on the bottom of tanks 134 and 136, respectively. There is no evidence that the species shown in Figure 6 (which discloses that wrapped construction) can be used to wrap tanks 144 and 146. It is open to speculation as to how this might be done and therefore

the high standards set for inherent disclosure under 35 USC 112, first paragraph, set forth in Wagoner v. Barger, 175 USPQ 85 (CCPA 1972) have not been met. A copy of this case law has been attached to this office action and it is incorporated here by reference. If the examiner were to rejoin claims 17 and 18 as depending directly from claim 11 the resulting claimed subject matter would not be supported by the original disclosure. According claims 17 and 18 are not rejoined.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In paragraph 0018 of the original specification, it states the enumerated liquids are used as alternatives to one another, not as mixtures. The claim terminology "at least one" to the extent that it claims mixtures of the recited working fluids is deemed to be new matter to the application. Similarly, as disclosed in paragraph 0053, the valve and pump of claim 16 are disclosed as alternatives to one another and are not disclosed as used together in a single control



units (noting that claim 10 claims only one control unit of the three disclosed in Figure 7).

Claims 2, 3, 4, 5, 11, 12, 13 and 22 are allowed.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Ford whose telephone number is 571-272-4911. The examiner can normally be reached on Mon.-Fri. 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John K. Ford/

Primary Examiner, Art Unit 3744